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ABSTRACT

Ease of language processing varies with the nature of the language involved. Ordinary spoken language is the easiest kind to produce and understand, while writing is a relatively new development. On thoughtful inspection, the readability of writing has shown itself to be a complex topic requiring insights from many academic disciplines and research techniques that are still not well developed. It would be wrong to conclude that writing is easiest to process when it is most like ordinary spoken language, or that more easily processed writing is "better" than more difficult language. A comparison of a passage from Henry James' "The Ambassadors" with one from Edith Wharton's "Ethan Frome" serves to illustrate some differences between written and spoken language. For example, differences in language and culture can hinder a reader's efforts to decipher a written text, as can unclear verbal references, insertion of new information, and negation. A listener's or reader's interest in a piece of language can be heightened through involvement (causing the listener or reader to feel caught up in what is expressed) and detachment (shifting attention from the actor to the object being acted upon). The arrangement and structure of paragraphs affects comprehension. Because writing can serve different purposes, it would be wrong to assign an absolute scale of values to the features that affect message processing. (Nineteen references are attached.) (SG)

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Center for the Learning & Teaching of Literature

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Sources of Difficulty in the Processing of Written Language

Wallace Chafe
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The ease with which people can process language varies considerably with the nature of the language involved. There are reasons to suppose that ordinary spoken language is the easiest kind of language to produce and understand. Linguists have been fond of pointing out that humans have been talking with each other for as long as they have been human, and that all normal people learn to talk early in their lives without any special training. As the result of a long evolutionary development, people seem to be "wired up" for the facile use of ordinary spoken language. There are less ordinary kinds of spoken language - making speeches, debating, reciting rituals - which require special preparation and talent for their production, and which may also require extra effort in listening. Spoken language of these kinds can thus be regarded as more difficult.

When it comes to written language, we know that humans have been using it for only a brief, recent segment of their existence as a species. We know that facility with writing and reading come well after facility with talking and listening in an individual's development, that such skills are consciously learned and taught, and that for most people they are never practiced with the same natural ease that characterizes the use of ordinary spoken language. Given the time span of evolution, it would be absurd to think that people are wired up to use written language as such. If we wonder how they can be equipped to use it at all, perhaps the answer lies in the fact that writing takes advantage of certain other capacities that evolved in the human species for other reasons: facility with the hands, for example, and the preeminence for humans of visual information. It may be in general more difficult to process written language than spoken, but our interest here is going to be in the further question of whether there are different varieties of written language that show different degrees of processing difficulty. The average reader would probably not hesitate to agree that some works, some authors, or some genres are harder to read than others. But what kinds of things lead people to such judgments? That is the question to be explored here. I will approach it from the point of view of a linguist whose chief interest has been in what makes writing different from speaking. My point of departure will be the belief that there are certain aspects of ordinary spoken language that enhance or retard its processibility, and that the processibility of written language can be affected by the presence or absence of analogous features. At the same time, however, I will warn against the simple conclusion that it is in all ways a good thing to "write as you speak."

Readability

In giving thought to such matters we can hardly ignore the fact that, since at least the 1920's, there has existed a research tradition whose goal has been to specify in quantitative terms just what it is that makes writing easy or difficult: to quantify what has been called readability. Unfortunately, these studies became mired in a certain degree of commercial success, while failing to achieve academic reputability. (Klare, 1974, provides a useful survey of such research. Other possible directions for readability research have been adumbrated, for example, in Hirsch, 1977, and Holland, 1981.) Part of the problem has been that readability is an area where research and application come together with greater impact than is usually the case. There is an obvious and demonstrated commercial, not to mention political, value in being

able to say that one piece of writing is more readable than another, or that a certain book has the readability appropriate to a certain grade level. These practical benefits have encouraged the acceptance of easy-to-apply shortcuts.

A deeper aspect of the problem has been that readability, on thoughtful inspection, shows itself to be a highly complex, many-sided topic whose fuller understanding requires insights from many disciplines, perhaps even research techniques that are still not well developed. The behaviorist and structuralist biases that have dominated so much of language research during the twentieth century have simply not been up to shedding much light on a topic as intimately entwined in the complexities of human experience as this one.

On a more specific level, readability research has suffered from an inability to separate causes from effects, to distinguish between determinants of readability and ways of assessing readability itself. Thus, for example, the cloze test came to be used as a common measure of readability, in disregard of the real function of that test as a measure of redundancy. It may be true that an optimal level of redundancy makes language easier to process, all other things being equal. The effects on language processing of too little or too much redundancy would be interesting to study in detail. But redundancy is at best one of the determinants of readability, a cause rather than an effect. A test of redundancy can hardly be appropriate as a measure of readability itself.

Ease of Processing

The discussion here will not be quantitative at all, but will explore qualitatively what some of the diverse determinants of reading ease or difficulty might be, attempting to get a little closer to a fuller understanding of their complexity. To avoid the connotations of the term readability, I will refer to ease of processing. My major focus will be on various properties of language that may contribute to such ease. I will assume that humans are endowed genetically with certain language-processing capacities, that language most in tune with those capacities is the easiest to process, and furthermore that the language best fitting that role is ordinary speech.

Certainly, as mentioned, it would be wrong to conclude from this discussion that writing is easiest to process when it is most like ordinary spoken language. There are fundamental differences between the acts of speaking and writing. Spoken language is produced and received as evanescent sound, expressing ideas that move forward at an inexorable temporal rate. Written language is produced and received as more or less permanent visual marks, expressing ideas that may be processed at quite different rates than those of speaking or listening. Written language also creates various expectations concerning language structure and use that may be quite different from those associated with speaking. For such reasons, the approach I will follow here needs to be interpreted with caution. I believe, nevertheless, that this approach does provide useful clues. If it fails to provide complete and final answers, it does give us useful handles on various determinants of ease and difficulty.

I should mention another potential pitfall. It would be easy to conclude from this kind of discussion that language which is easier to process is "better" than language which is more difficult. Easily processible language is, of course, better with respect to that one property. But language has many dimensions, and it surely would be wrong to view ease of processing as

a goal that overrides all else. For certain writers at certain times it even has been regarded as a quality to be avoided; for some, a literary work that is difficult to process may be valued for just that reason.

As a basis for discussion, I will take a small piece of writing for which there is reason to think that it is relatively difficult to read, compare it with a piece that is thought to be less difficult, and compare both samples with some things that are known about spoken language. For specific aspects of spoken and written language I will rely especially on findings set forth in Chafe (1982, 1986), and Chafe and Danielewicz (1987). (For a comprehensive bibliographic review of research on differences between spoken and written language, see Chafe and Tannen, 1987.)

The writing samples are (1) the first paragraph, or first 250 words, of Henry James' The Ambassadors; and (2) the first four paragraphs, or first 259 words, of Edith Wharton's Ethan Frome. These novels were both produced in the early years of this century by authors who knew and influenced each other. Nevertheless, there is reason to think that the James passage is significantly harder to read than the Wharton. To test my own judgment to that effect, I asked six well-read adults to read the two passages (presented in random order) and to say which of them, if either, they found easier to read. All six agreed that the Wharton passage was easier, two of them adding that it was much easier. While it would be desirable to support this finding with more sophisticated ways of measuring relative processing ease, these responses will serve as a basis for the discussion here. (For a discussion of the James excerpt from a partially different perspective, see Watt, 1969.)

The James paragraph reads as follows:

> Strether's first question, when he reached the hotel, was about his friend; yet on his learning that Waymarsh was apparently not to arrive till evening he was not wholly disconcerted. A telegram from him bespeaking a room "only if not noisy," reply paid, was produced for the enquirer at the office, so that the understanding they should meet at Chester rather than at Liverpool remained to that extent sound. The same secret principle, however, that had prompted Strether not absolutely to desire Waymarsh's presence at the dock, that had led him thus to postpone for a few hours his enjoyment of it, now operated to make him feel he could still wait without disappointment. They would dine together at the worst, and, with all respect to dear old Waymarsh - if not even, for that matter, to himself - there was little fear that in the sequel they shouldn't see enough of each other. The principle I have just mentioned as operating had been, with the most newly disembarked of the two men, wholly instinctive - the fruit of a sharp sense that, delightful as it would be to find himself looking, after so much separation, into his comrade's face, his business would be a trifle bungled should he simply arrange for this countenance to present itself to the nearing steamer as the first "note" of Europe. Mixed with everything was the apprehension, already, on Strether's part, that it would, at best, throughout, prove the note of Europe in quite a sufficient degree.

The Wharton passage is the following:

> I had the story, bit by bit, from various people, and, as generally happens in such cases, each time it was a different story.

If you know Starkfield, Massachusetts, you know the post-office. If you know the post-office you must have seen Ethan Frome drive up to it, drop the reins on his hollow-backed bay and drag himself across the brick pavement to the white colonnade: and you must have asked who he was.

It was there that, several years ago, I saw him for the first time; and the sight pulled me up sharp. Even then he was the most striking figure in Starkfield, though he was but the ruin of a man. It was not so much his great height that marked him, for the "natives" were easily singled out by their lank longitude from the stockier foreign breed: it was the careless powerful look he had, in spite of a lameness checking each step like the jerk of a chain. There was something bleak and unapproachable in his face, and he was so stiffened and grizzled that I took him for an old man and was surprised to hear that he was not more than fifty-two. I had this from Harmon Gow, who had driven the stage from Bettsbridge to Starkfield in pre-trolley days and knew the chronicle of all the families on his line.

"He's looked that way ever since he had his smash-up; and that's twenty-four years ago come next February," Harmon threw out between reminiscent pauses. I had the story, bit by bit, from various people, and, as generally happens in such cases, each time it was a different story.

Differences of Language and Culture

Before we turn to specific linguistic differences, we can note the effects of differences in the language or culture of the reader compared with those of the author. It is ordinarily more difficult to read a foreign language than one's own native language. A similar difficulty presents itself to a greater or lesser degree in reading works that were written at historically different stages of one's own language, or by writers who speak a dialect different from one's own. James was writing at a somewhat different time from ours, and was under the influence of British English. He used expressions such as bespeaking a room or the (first) note of Europe that to modern Americans are at least unfamiliar, as in the first case, and perhaps difficult to interpret, as in the second. He also sometimes used a kind of syntax that would not be found in either spoken or written American English at the present time, as when he wrote had prompted Strether not absolutely to desire Waymarsh's presence.

It is not only unfamiliar words, phrases, and locutions that may create some difficulty, but also the description of unfamiliar patterns of behavior. Thus, a contemporary American reader might expect that a hotel guest would make an inquiry at the desk rather than at the office. Although the same reader might know more or less where Liverpool is, or at least that it is a major city in England, the same cannot be said for Chester. In my own curiosity I went so far as to consult an atlas to confirm my inference that Chester must be somewhere not too far from Liverpool. Such activities, while educational, are obvious hindrances to facile reading.

In the Wharton passage, the most obvious difference of this sort is the reference to a hollow-backed bay, a categorization that must have meant more to people in the pre-automobile age than it does now. Starkfield can be accepted as a fictitious toponym, although readers familiar with the area might pause to speculate on its possible origin as a blend of Stockbridge

and Pittsfield, both close to Wharton's home in the Berkshires.

Hindrances of this sort can be expected to increase with the distance between the reader's period and subculture and those of the author. They are helpful to us here in making it especially plain that ease of processing is not to be confused with literary value. Shakespeare is difficult to read for the same kinds of reasons, multiplied and magnified many times over.

Interruptions in Information Flow

A promising area of linguistic research is that concerned with *information flow*. Central to this research is the investigation of how ideas move into and out of the consciousness of language users. In ordinary conversation ideas enter and leave the consciousness of the interactants in an easy sort of flow. Aspects of this flow are reflected in such linguistic features as the ordering of words, the use of pronouns, and the use of prosody (intonation, stresses, pauses, and the like). Processing is likely to be easier for written language that comes closer to mimicking ordinary conversation with respect to these features. (See Chafe, 1987, for a discussion of information flow in speech, and Chafe, 1988, with regard to prosodic features in written language.)

One of the most characteristic features of James' writing style is his frequent habit of interrupting ideas by inserting other ideas inside them. The paragraph we are considering includes numerous examples of such discontinuities. Among the examples quoted below, the second is particularly striking because of its two coordinate insertions, within the second of which there is still another insertion. The last two examples both show two coordinate insertions each:

> Strether's first question, when he reached the hotel, was about his friend
>
> and, with all respect to dear old Waymarsh, - if not even, for that matter, to himself - there was little fear that ...
>
> had been, with the most newly disembarked of the two men, wholly instinctive
>
> to find himself looking, after so much separation, into his comrade's face
>
> the apprehension, already, on Strether's part, that it would
>
> that it would, at best, throughout, prove the note of Europe

Such interruptions were very popular in turn-of-the-century writing, and Edith Wharton engaged in them as well, though more sparingly:

> and, as generally happens in such cases, each time it was a different story
>
> it was there that, several years ago, I saw him for the first time

The study reported in Chafe and Danielewicz (1987) found the insertion of phrases within discontinuous phrases to be very rare in ordinary spoken language. By definition such

insertions constitute interruptions in the easy flow of ideas.

Problems with Reference

Ordinary spoken language flows most smoothly when both or all parties know who and what is being talked about. Usually, for example, there is enough shared knowledge that the use of proper names will be understood by those who are involved in a conversation.

A well-known literary device is to present people and events as if they were already familiar to the reader, as a way of pretending that the author and the reader already share some knowledge. Thus James begins by referring to Strether and his friend, who we gather must be the same person as Waymarsh. He treats the hotel as if we were already in a position to identify it. This pretense is so common at the beginnings of literary works that one might question whether it presents any difficulty at all. Nevertheless, it does force readers to take the cognitive step of establishing new mental "files" for people and things about whom they initially know nothing, and for whom they expect to fill in further information as the story proceeds. It contrasts with the more oral device of properly introducing new characters. To take a familiar kind of example from oral literature, to begin a story by saying There was once a miller who was very poor, but he had a beautiful daughter does not pretend that we already know either the miller or his daughter.

More serious problems arise when ambiguity is introduced. Problems of this nature are far from unknown in conversation. A speaker, for example, may use a personal pronoun like he in a context where its referent is unclear to the listener. An interested listener is able to ask for clarification by saying *Who do you mean?* or the like. Readers, compared with listeners, are at a disadvantage in such cases because there is no direct way to question the author. The kind of problem that may arise is well illustrated by the first part of the second sentence of the James paragraph:

> A telegram from him bespeaking a room "only if not noisy," reply paid, was produced for the enquirer at the office

Readers confronting the word *him* are in a context where they have just finished processing two other third person masculine singular pronouns. The preceding sentence ended:

> yet on his learning that Waymarsh was apparently not to arrive till evening he was not wholly disconcerted

In this context, the expected interpretation of *him* in a telegram from him is that its referent is identical with that of the preceding *his* and *he*, namely the person named Strether. Since this is only the second sentence in the book, there is almost no larger context to provide help at this point. Thus, it is at first natural to suppose that Strether was the one who "bespoke" a room.

With such an interpretation in mind, the reader cannot help but be confused on reaching the words the enquirer, for who can this enquirer be? That he is not the same person as him is suggested in two ways. First, if he were the same person the reader might expect to find the word him in both places. Second, to the extent that events are clear at all at this point, it would not seem that the sender of the telegram and the enquirer at the office should be the

same person. Readers may now try the hypothesis that, in spite of its context, him refers to Waymarsh and the enquirer to Strether. This hypothesis seems confirmed as the paragraph proceeds, but such referential gymnastics fail to contribute to ease of processing.

Later in the paragraph one encounters further referential games with the most newly disembarked of the two men (Strether) and this countenance (Waymarsh). Given what may be a muddy understanding of the situation at this point, the referents of these two phrases may require a moment's thought. The same can be said of the principle I have just mentioned as operating. Two long sentences before this phrase, the author introduced the idea of The same secret principle. The intervening complicated sentence about dining together may have consumed enough of the reader's processing capacity to suppress awareness of the principle. I, at least, found it necessary on first reading to go back and refresh my memory as to what the principle was. I will return to problems with this principle below.

Subjects that Express New Information

My own recent work in the area of information flow has focused on the distribution of given, accessible, and new information in spoken and written language. There is no space here to present this work in detail, but one finding that can be described briefly is that nearly all of the grammatical subjects in ordinary spoken language have the status of what has often been called given information. An idea that is given - it may be the idea of a person, object, event, or state - is one that is already active in the speaker's consciousness, and one that the speaker assumes to be already active in the listener's consciousness as well. Metaphorically, given information is already "in the air" for both the speaker and the hearer, or at least the speaker believes this to be so. Grammatical subjects function to express the starting points for adding new information, and thus it is natural that the ideas they express should strongly tend to have this given status.

Writers are free of the constraints imposed by the need to produce language on the run, as speakers must do, and are able to rework their products as much and as often as they choose. Among other effects, these freedoms often lead writers to introduce grammatical subjects that express new, rather than given information. James provides us with some good examples. The subject of the very first sentence in The Ambassadors is Strether's first question. This phrase expresses the idea of an event which readers can in no way be assumed to have already active in their minds. It is a new idea that readers must first assimilate, before they use it as an anchor to which they can attach the further new idea that this question was about his friend. As mentioned earlier, however, we may be able to accept the fiction that the idea of Strether's first question was already accessible to the reader as the story began, being thus an example of knowledge pretended to be shared between the author and the reader.

The same can hardly be said of the subject of the second sentence: A telegram from him bespeaking a room "only if not noisy," reply paid. This long, information-packed subject imposes on the reader a cluster of new ideas, all centered on the idea of the telegram. It does not refer to anything already given or accessible, even in pretense, but rather moves the story forward in a significant way. The author does not pretend that we already know of the telegram, as is shown quite clearly by his use of the indefinite article: *a* telegram. This is a grammatical subject that not only bears new information, but expresses a complex set of new ideas.

The same sentence ends with a result clause introduced by so that. The subject of this clause is equally filled with new and complex information: the understanding they should meet at Chester rather than at Liverpool. The prize for newness and complexity, however, goes to the subject of the third sentence: The same secret principle, however, that had prompted Strether not absolutely to desire Waymarsh's presence at the dock, that had led him thus to postpone for a few hours his enjoyment of it.

These subjects packed with new information contrast markedly with the given-information subjects expressed by pronouns at the beginning of the Wharton passage:

I had the story

it was a different story

If you know Starkfield

you know the post-office

The it in the second Wharton example is a typical pronominalized, given subject, referring to the idea of the story that was activated as new information in the third and fourth words of the novel. As for the other examples, in spoken language first and second person pronouns have the status of given information because of the inherent makeup of a conversation: the participants are already conscious of each others' existence and identity. Some writers pretend that the same situation exists between themselves and their readers; hence the naturalness and ease of the I and you in the other Wharton examples.

Negation

One other hindrance to information flow is worth passing mention. A noticeable property of the James passage is its frequent use of negation, manifested especially in the word not, but also in negative words like disconcerted and without:

yet on his learning that Waymarsh was apparently not to arrive till evening he was not wholly disconcerted

bespeaking a room "only if not noisy"

that had prompted Strether not absolutely to desire Waymarsh's presence at the dock

he could still wait without disappointment

if not even, for that matter, to himself

they shouldn't see enough of each other

Negative expressions must be understood against a background in which the reader would have expected the opposite. Thus, I would not say I didn't go the movie last night unless

I had reason to believe that you expected me to have gone to the movie. On reading a negative clause, therefore, a reader is forced to take the extra step of imagining that the opposite was expected: that Waymarsh would have arrived before evening, that Strether would have been disconcerted, and so on. The mental act of constructing these expectations and then negating them qualifies as another hindrance to ease of processing. The problem increases when the reader needs to process the kind of double negation conveyed in a phrase like not wholly disconcerted.

Involvement and Detachment

A listener's or reader's interest in a piece of language is heightened by the presence of features that have sometimes been grouped under the term "evaluation" (Labov, 1972, p. 354-396) and sometimes called "involvement" (Chafe, 1982; Tannen, in press). These are linguistic devices whose effect is to cause a listener or reader to feel caught up in the ideas and events being verbalized, to experience something akin to what the writer was experiencing. Wharton, for example, increases the reader's involvement, not only by telling her story in the first person, but even by addressing her reader in the second: If you know Starkfield, Massachusetts, you know the post-office, etc. The same segment illustrates the use of repetition, one of the major involvement devices treated by Tannen (in press): you know is repeated three times, and you must have, twice. The alliteration in the phrase lank longitude illustrates another kind of repetition. Wharton adds to feelings of involvement with her vivid descriptions of events and persons: drag himself across the brick pavement, the sight pulled me up sharp, the most striking figure in Starkfield, a lameness checking each step like the jerk of a chain, bleak and unapproachable, stiffened and grizzled.

The most exciting event, in fact the only event, in the James paragraph is the fact that somebody produced a telegram for the enquirer. This event is reported in the passive voice so that the producer of the telegram can be left unidentified. The passive is relatively rare in ordinary spoken language, outside of lexicalized phrases like I got hit. By shifting attention away from an agent doing something to an object having something done to it, the passive is one of the prime manifestations of *detachment*, or negative involvement.

Another manifestation of detachment is the use of nominalizations: nouns formed from verbs or adjectives. Nominalizations are used with great frequency in more detached styles of writing, and are not present to anything like the same degree in ordinary conversation. The James paragraph contains the following examples: learning, enquirer, understanding, presence, enjoyment, disappointment, separation, and apprehension. Nominalizations reify events and properties, converting what are initially experienced as dynamic, short-lived happenings and feelings into ideas that have the same static, lasting quality as the ideas of physical objects. Thus, instead of saying that Waymarsh understood that they should meet at Chester rather than at Liverpool, James wrote about Waymarsh's understanding as if it were a thing, something that could then acquire lasting properties such as being sound. By using nominalizations so frequently, James repeatedly forces readers to abstract away from ordinary experience.

Wharton's use of sight, lameness, smash-up, and pause adds up to only half the number of nominalizations used by James. Wharton also uses such words in close association with active verbs, thereby moderating their contribution to detachment: I saw him ... the sight; a lameness checking each step.

Paragraphing

It is not irrelevant that the two pieces of writing before us show markedly different divisions into paragraphs. The James selection consists of 250 words, or six sentences, embraced within a single paragraph. The 259 words or nine sentences of the Wharton selection are distributed among four paragraphs. Looking a little beyond these selections we find that the first eight paragraphs of James' novel have a mean length of nine sentences, while Wharton's first eight paragraphs have a mean length of two and a half sentences. (The reason is not entirely that Wharton includes some dialogue, since James also includes reported speech within his paragraphs.)

Writing styles vary greatly in their preference for paragraph size. The minimum paragraph can be found on the front page of nearly any newspaper, where the mean number of sentences per paragraph is only a little more than one. The maximum I have found has been in certain writings in the *New Yorker*, where paragraphs containing several dozen sentences are not unusual.

Intuition suggests that a correlation between paragraph size and ease of processing would repay further study. As William Zinsser put it, "Short paragraphs put air around what you write and make it look inviting, whereas one long chunk of type can discourage the reader from even starting to read" (Zinsser, 1980, p. 111-112). Ultimately we would like to understand why this is so. My work with spoken language suggests that speech does exhibit paragraph-like units, the boundaries of which are signaled by increased hesitating and a falling off of pitch and volume, followed by a new burst of energy (cf. Lehiste, 1979). These boundaries are associated with significant changes of scene, time, character configuration, event structure, or in general with some kind of topical discontinuity (Chafe 1980, p. 40-47; 1987, p. 42-45). To put it in other terms, paragraph-like boundaries appear in speech when the speaker replaces one set of background concepts, held in peripheral memory, with another. When a writer, like James or one of the *New Yorker* authors (or editors), favors us with long paragraphs, he is suggesting that we are able to hold a fairly large amount of background information in our minds at once. The front page of the newspaper assumes that our capacity for retaining background information is much more limited.

There is more to notice about paragraphs than their length. Traditionally, instruction in writing has had much to say about paragraph "structure," with a supposition that the organization and coherence of paragraphs can also influence ease of processing, positively or negatively. In this connection I can mention Rodgers' (1966) study of Walter Pater's paragraphing in his essay called "Style" (Pater, 1987). Pater's practice is interesting because he was very conscious of what he was doing in this respect. Rodgers shows that Pater's reasons for distributing his ideas among paragraphs were diverse and complex. Logic and coherence played a role, but were by no means the only determining factors: "the logical partitioning of complex discourse into paragraphs can occur at so many junctures that additional non-logical criteria often have to be invoked to account for a given decision to indent" (Rodgers, 1966, p. 11). Non-logical criteria may include reader expectation, paragraph size, readability, rhythm, parallelisms, juxtapositions, and "tonal fluctuations." Rodgers' study may be unique in showing how diverse the grounds for paragraphing can be, as exemplified by an author who prided himself on how well he did it.

This brings us, then, to the question of how information flow may be helped or hindered by the clarity with which ideas are presented, and the complexity with which they are related. At one extreme, ideas may be presented in a straightforward, obvious way, where each is clear in itself and where the relation of each to the others is made equally clear as the text proceeds. The Wharton passage is of this nature. One need not work very hard at understanding each idea as it appears, or at relating one idea to the next.

James requires more effort of this kind. Take, for example, the secret principle that is introduced in the third sentence, and that might be said to be the topic of this paragraph. From the third sentence we learn, not what that principle was, but that it had prompted Strether not absolutely to desire Waymarsh's presence at the dock. Next we learn that it operated to make him feel he could still wait without disappointment. Finally, toward the end of the paragraph, we learn that Strether has an apprehension that his upcoming contact with Waymarsh will prove the note of Europe in quite a sufficient degree. We gather that the secret principle is one that works to postpone contact between Strether and Waymarsh, while making Strether apprehensive about the length and frequency of such contact. We are left wondering about the reasons for Strether's apprehension, and of course that wonderment is what makes us want to read on.

Something more subtle occurs later in the logic of this paragraph. My first reading gave me the sense that the author was confused or confusing when he wrote of arranging for this countenance to present itself to the nearing steamer. I understood from the early part of the paragraph that Strether had already landed (at Liverpool?) and gone to the hotel (at Chester?). Why then should the author now be writing about what would happen when Strether landed? I reckoned without the force of the words had been in the clause The principle I have just mentioned as operating had been ... wholly instinctive. The effect of these two words was to throw the rest of this sentence into a pluperfect time, before the events described earlier in the paragraph: a time when Strether was still aboard the ship. This subtlety of tense manipulation requires not only careful reading, but also the option of looking back to refresh one's perception of just how things had been worded. Readers can do this in a way that listeners cannot, but it constitutes still another hindrance to ease of processing.

Values

The need for careful reading, including the option of rereading, is in fact a primary value of the James style of writing, a value that removes it from any close resemblance to ordinary spoken language, and by the same token from facile processing - a value that makes it "difficult." Authors like James must have viewed literature as sharing qualities of a painting or sculpture whose meaning cannot be fully appreciated at first glance, but must be savored slowly as one looks and re-looks and thinks and rethinks about what the artist has done. Leon Edel concludes his introduction to the novel with the following observation:

> There are readers for whom certain books will always remain closed; and others for whom the same books cannot be opened too often. James wrote The Ambassadors for the attentive reader, and a reader capable of seeing with him - and accepting his painter-sense, his brush-work, his devotion to picture and to scene and above all his need to render this in a highly colored and elaborate style, so as to capture the nuances of his perceptions. The reader who is able to give him "attention of perusal," will

discover soon enough the particular rewards of this book. (James, 1960, p. xv-xvi)

In avoiding the pitfall of thinking that when writing is easier to process it is for that reason "better," we should not let James lead us into the opposite trap of supposing that the value of writing necessarily increases with its difficulty. Writing serves many purposes, the more practical of which are surely advanced by ease of processing. For instructions or legal documents there are very practical reasons for preferring readability. But literature has other functions, and whether ease or difficulty is to be preferred aesthetically is impossible to answer. The ingredients of beauty are many, and changeable with time, place, and the eye of the beholder. To make things easy for one's readers or to make them hard are both strategies that can be exploited with good or bad results. In short, it would be clearly wrong to associate any absolute scale of value with the features I have discussed here.

References

Chafe, W. (1980). The deployment of consciousness in the production of a narrative. In W. Chafe (Ed.), The pear stories: Cognitive, cultural, and linguistic aspects of narrative production. Norwood, NJ: Ablex.

Chafe, W. (1982). Integration and involvement in speaking, writing, and oral literature. In D. Tannen (Ed.), Spoken and written language: Exploring orality and literacy. Norwood, NJ: Ablex.

Chafe, W. (1986). Writing in the perspective of speaking. In C. Cooper and S. Greenbaum (Eds.), Studying writing: Linguistic approaches. Written Communication Annual, Vol. 1. Beverly Hills: Sage.

Chafe, W. (1987). Cognitive constraints on information flow. In R. Tomlin (Ed.), Coherence and grounding in discourse. Amsterdam: John Benjamins.

Chafe, W. (1988). Punctuation and the prosody of written language. Written Communication 5, xxx-xxx.

Chafe, W., and Danielewicz, J. (1987). Properties of spoken and written language. In R. Horowitz and S. J. Samuels (Eds.), Comprehending oral and written language. New York: Academic Press.

Chafe, W., and Tannen, D. (1987). The relation between written and spoken language. Annual Review of Anthropology, 16, 383-407.

Hirsch, E. D., Jr. (1977). The philosophy of composition. Chicago: The University of Chicago Press.

Holland, V. M. (1981). Psycholinguistic alternatives to readability formulas. Document Design Project, Technical Report No. 12. Washington, DC.

James, H. (1960). The ambassadors. Edited by Leon Edel. New York: Houghton Mifflin (originally published 1903).

Klare, G. B. (1974). Assessing readability. Reading Research Quarterly, 10, 62-102.

Labov, W. (1972). Language in the inner city: Studies in the Black English vernacular. Philadelphia: University of Pennsylvania Press.

Lehiste, I. (1979). Sentence boundaries and paragraph boundaries - perceptual evidence. In P. R. Clyne, W. F. Hanks, and C. L. Hofbauer (Eds.), The elements: A parasession on linguistic units and levels. Chicago Linguistic Society. University of Chicago.

Pater, W. (1987). Appreciations: With an essay on style. Evanston: Northwestern University Press (originally published 1889).

Rodgers, P. C., Jr. (1966). A discourse-centered rhetoric of the paragraph. College Composition and Communication, 16, 2-11.

Tannen, D. (In press). Involvement in discourse: Repetition, dialogue, and images in conversation. Cambridge University Press.

Watt, I. (1969). The first paragraph of The Ambassadors: An explication. In G.A. Love and M. Payne (Eds.), Contemporary essays on style: Rhetoric, linguistics, and criticism. Glenview, IL: Scott, Foresman.

Wharton, E. (1911). Ethan Frome. New York: Charles Scribner's Sons.

Zinsser, W. (1980). On writing well: An informal guide to writing nonfiction. New York: Harper and Row.